Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Management

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Division of
Resource Conservation

M E M O R A N D U M

TO: Water Resources Commission

FROM: Richard H. Thibedeau,
Director, Bureau of Resource Protection

RE: Sudbury Tunnel Project

Date: 8 July 1991

The MWRA is proposing to construct a tunnel connecting the Authority's Cosgrove Tunnel and City Tunnel transmission facilities (See Figure 1). This project will provide redundancy for the Hultman Aqueduct and will replace the Weston Aqueduct, which currently serves the low pressure areas of the system. *The MWRA is requesting that the WRC find this project to be exempt from Water Resources Commission review under the Interbasin Transfer Act based on the Interbasin Transfer regulations, 313 CMR 4.02(j), which exempts projects whose "sole purpose is to provide redundancy, provided that any increase in capacity cannot be used to increase the ability to transfer water, on an annualized basis...".*

Background

In December 1989, we received correspondence from the MWRA describing a proposed project to rehabilitate the Sudbury Aqueduct as a key link in MWRA's metropolitan transmission system. The Authority contended that because the project was solely to provide redundancy to the Hultman Aqueduct and to serve as a backup when the Hultman Aqueduct was out of service, it was exempt from Commission review under the Interbasin Transfer Act.

The affected portions of the MWRA's transmission service would have the following design capacities at the completion of the proposed project:

- Sudbury Aqueduct 200 mgd
- Hultman Aqueduct 300 mgd
- Weston Aqueduct 300 mgd

The total design capacity of this portion of the system would be 800 mgd.

After reviewing the proposed project and analyzing the physical and legal constraints that would prevent the project from causing an increase in the rate of interbasin transfer, the Commission agreed that the project was exempt from review under the ITA. (See enclosed letter to John Shawcross dated 16 February 1990).

Current Project

Since the 1990 decision, the MWRA has been exploring different options to the Sudbury Aqueduct project in order to minimize environmental impacts and to take advantage of recent developments in tunneling technology. The Authority is now proposing to construct a 14 foot diameter tunnel from Shaft C, at the Cosgrove Tunnel in Marlborough to Shaft N at the Norumbega Reservoir in Weston. (See enclosed letter from John Shawcross dated May 6, 1991). The project would also include a 12 foot diameter tunnel from Shaft N to Shaft 5, at the City Tunnel in Weston (Figure 1).

When the new tunnel is operational, the Weston Aqueduct will be taken out of service and placed on emergency standby status. There will be some minor rehabilitation of the Sudbury Aqueduct in order to make it operational, however this structure will also remain on emergency standby status. Neither the Weston Aqueduct nor the Sudbury Aqueduct will be used unless the Sudbury Tunnel is out of service and a combination of demand management and use of the Hultman Aqueduct prove inadequate to meet peak demands.

The Authority is asserting that the purpose of the Sudbury Tunnel project, like the Sudbury Aqueduct Rehabilitation project, is solely to provide redundancy to the Hultman Aqueduct.

Hydraulic Capacity

Currently, the Hultman Aqueduct and the Weston Aqueduct each have a design capacity of 300 mgd. The new tunnel would be designed to carry 500 mgd. With use of the Weston Aqueduct being discontinued, total design capacity of this portion of the transmission system would be 800 mgd.

Under normal operating conditions, the Hultman Aqueduct would carry 100 mgd and the new tunnel would carry 165 mgd. When the Hultman is shut down for repairs, maintenance or emergency conditions, the new tunnel would be able to provide capacity for

the entire flow to the metropolitan area. The MWRA has stated that the new project is **not** intended to increase the volume supplied by the existing system on an annualized basis.

Physical Constraints on Increasing the Current Rate of Interbasin Transfer

Although the combined maximum capacity of the Hultman Aqueduct and Sudbury Tunnel would be 800 mgd, in practice this capacity could not be reached without emptying the distribution reservoir. At the present time, the Norumbega Reservoir acts as the pressure control for the Hultman Aqueduct, thus regulating the flow. It is normally kept at an elevation of 272 feet. Once the Sudbury Tunnel is operational, Norumbega's elevation will be raised to approximately 280 feet to provide the extra pressure differential. A set operating range for the Wachusett Reservoir and its associated stilling pool and Norumbega Reservoir will be established to keep the normal flows through the Hultman Aqueduct at 100 mgd and through the Sudbury Tunnel at 165 mgd.

Legislative and Regulatory Constraints

The safe yield of the MWRA system is 300 mgd. Withdrawals must remain within this limit. Withdrawals are also subject to the conditions of the Water Management Act. At the present time, the MWRA is well below its registered withdrawal, due to its aggressive demand management program. The MWRA is committed to continuing this program on an ongoing basis.

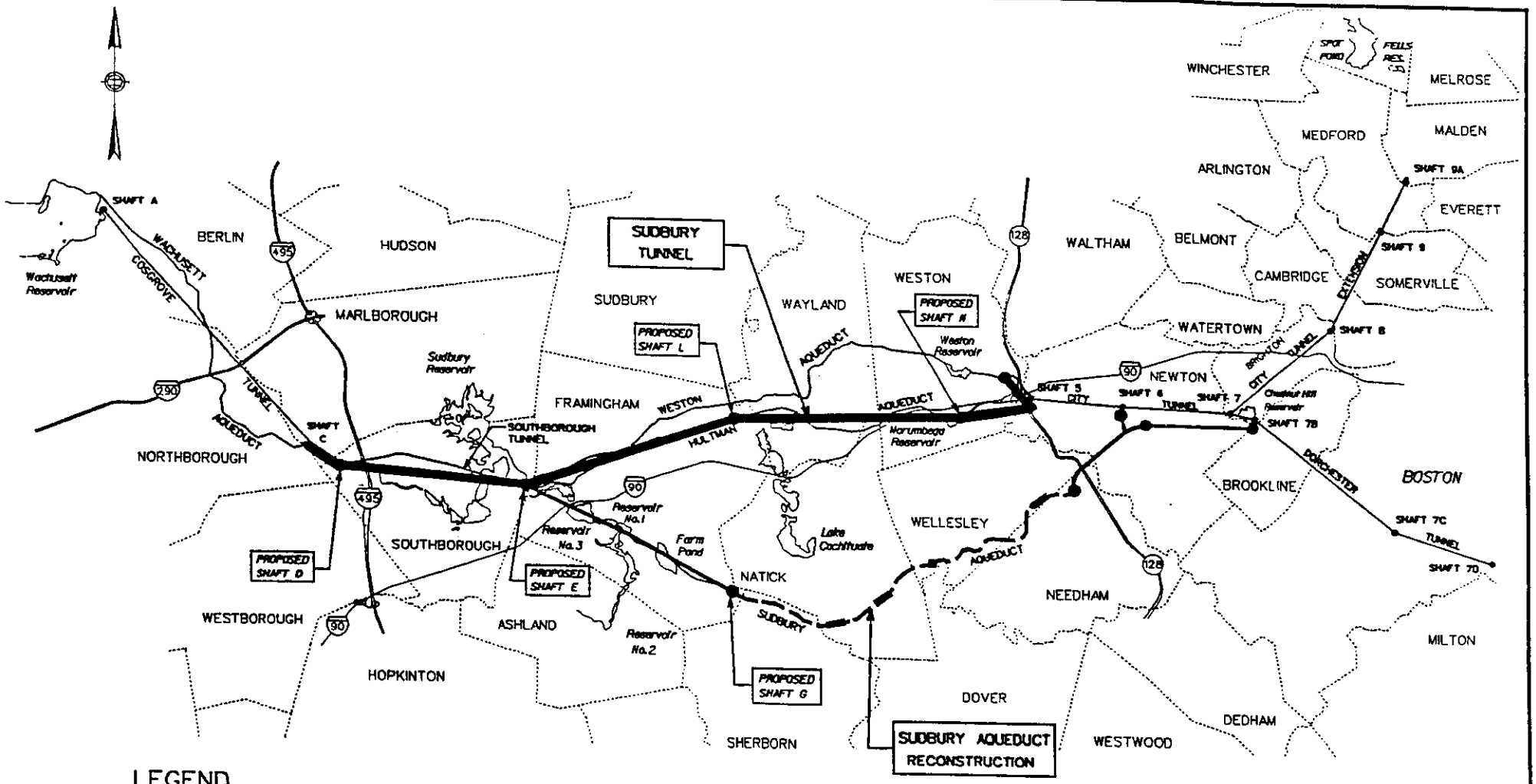
The addition of new communities to the MWRA waterworks service area requires legislative approval under the MWRA enabling legislation, Chapter 372 of the Acts of 1984, as well as Water Resources Commission approval under the Interbasin Transfer Act. Thus, no new community could be served by the new tunnel without WRC review and approval.

Conclusion

It is the express intention of the Interbasin Transfer Act that any increase over the present rate of interbasin transfer be subject to Water Resources Commission approval. However, section 4.02(j) of the Interbasin Transfer Act regulations (313 CMR 4.00) exempts projects whose "sole purpose is to provide redundancy, provided that any increase in capacity cannot be used to increase the ability to transfer water, on an annualized basis...". *Based on*

the information provided by the MWRA, the Sudbury Tunnel project is not subject to the Interbasin Transfer Act and will not require approval from the Water Resources Commission provided that the combined transfer through the Hultman Aqueduct and Sudbury Tunnel does not exceed the current hydraulic capacity of the Hultman Aqueduct of 300 mgd on an annualized basis. To assure that this condition is met, an annual report of the volume transferred through this system will be submitted to the WRC. If in the future, this project does result in an increase in capacity, a Special Act of the Legislature, or an additional community joining the MWRA system, it will be subject to Commission approval retroactively.

It should be noted that this decision, like the February 16, 1990 decision, deals solely with the Sudbury Tunnel project and not with construction or rehabilitation of any other portion of the MWRA's transmission and distribution system. Any new construction, such as that to parallel the Southborough Tunnel or the construction of a northern tunnel loop system to connect Spot Pond with the City Tunnel, will be considered as a separate issue.



Tunnel/Aqueduct Improvement Program

SCALE: 1"=12000'

Figure 1

THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

16 February 1990

John Shawcross, Director
Capital Engineering and Development Dept.
Waterworks Division
Massachusetts Water Resources Authority
100 First Street
Boston, MA 02129

Dear Mr. Shawcross:

The Water Resources Commission has reviewed the Sudbury Aqueduct rehabilitation project with respect to the Interbasin Transfer Act (MGL, C.4, ss 8B) and regulations (313 CMR 4.00). We note the following:

1. At the present time, the MWRA provides water to its customers in the metropolitan Boston area by means of a series of west-to-east tunnels and aqueducts.

STRUCTURE	PROPOSED CHANGES
Wachusett Reservoir	NONE
Cosgrove Tunnel	NONE
Southborough Tunnel	Build second tunnel to parallel existing tunnel
a. Weston Aqueduct	NONE
b. Hultman Aqueduct	Rehabilitate Sudbury Aqueduct to parallel Hultman

The Weston Aqueduct, with an average capacity of 75 mgd, serves the low pressure areas of the system. The Hultman Aqueduct, with an average capacity of 276 mgd serves the high pressure areas.

This decision deals with the Sudbury Aqueduct rehabilitation only. New construction to parallel the Southborough Tunnel will be considered as a separate issue.

2. The purpose for the reconstruction of the Sudbury Aqueduct is to reduce stress on the Hultman Aqueduct, and to act as a backup if the Hultman Aqueduct is ever out of service. The original Sudbury Aqueduct conducted water from the Framingham Reservoir system to the Chestnut Hill Reservoir by means of gravity flow. The reconstructed Sudbury Aqueduct would be pressurized and would bypass the Framingham Reservoir and carry water directly from the Cosgrove Tunnel-Southborough Tunnel connection to the MWRA system.

3. Once the reconstructed Sudbury Aqueduct is put into operation, the Sudbury and Hultman Aqueducts will operate simultaneously. The Hultman Aqueduct will normally carry 135 mgd and the Sudbury Aqueduct will normally carry 90 mgd. The balance of the average day demand on the system will be provided by the Weston Aqueduct and MWRA's other facilities, which are already in operation.

4. If the Hultman Aqueduct is taken out of operation, the proposed Sudbury Aqueduct could convey up to 200 mgd. In order to provide the balance of the average day demand during this emergency, the flow through the Weston Aqueduct would be increased by 30 mgd for delivery via Spot Pond, which would be regulated to handle this additional volume. Conservation restrictions would also be instituted.

5. Although the combined maximum capacity of the Hultman and Sudbury Aqueducts would be 500 mgd, in practice this capacity could not be reached without emptying the distribution reservoir. At the present time, the Norumbega Reservoir acts as the pressure control for the Hultman Aqueduct, thus regulating the flow. It is normally kept at an elevation of 272 feet. Once the Sudbury Aqueduct is operational, Norumbega's elevation will be raised 15 feet to provide the extra pressure differential. A set operating range for the Wachusett Reservoir and its associated stilling pool and Norumbega Reservoir will be established to keep the normal flows through the Hultman Aqueduct at 135 mgd and through the Sudbury Aqueduct at 90 mgd.

6. The capacity of Cosgrove Aqueduct, the direct connection to the Wachusett Reservoir of this tunnel/aqueduct system, will not be changed.

It is the express intention of the Interbasin Transfer Act that any increase over the present rate of interbasin transfer be subject to Water Resources Commission approval. However, section 4.02(j) of the Interbasin Transfer regulations (313 CMR 4.00) exempts projects whose "sole purpose is to provide redundancy, provided that any increase in capacity cannot be used to increase the ability to transfer water, on an annualized basis...". Based on the information provided by the MWRA, stated above, the Sudbury Aqueduct rehabilitation project is not subject to the Interbasin Transfer Act and will not require approval from the Water Resources Commission provided that the combined transfer through the Hultman and Sudbury Aqueducts does not exceed the current hydraulic capacity of the Hultman Aqueduct of 300 mgd on an annualized basis. To assure that this condition is met, an annual report of the volume transferred through this system will be submitted to the WRC. If in the future, this project does result in an increase in capacity, a Special Act of the Legislature, or an additional community joining the MWRA system, it will be subject to Commission approval retroactively.

If you have any questions, please feel free to contact the Commission.

Sincerely,

Elizabeth Kline

Elizabeth Kline
Executive Director

cc: Ann Gannett, WSCAC
Eileen Simonson, WSCAC

MASSACHUSETTS WATER RESOURCES AUTHORITY
Charlestown Navy Yard
100 First Avenue
Boston, Massachusetts 02129

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May 6, 1991

Mr. Richard Thibedeau
Director of Resource Protection Bureau
Department of Environmental Management
Division of Water Resources
100 Cambridge Street
Boston, Massachusetts 02202

Re: Sudbury Tunnel Project

Dear Mr. Thibedeau:

As you know, the Authority is engaged in a project to provide redundancy to its existing Hultman and Weston Aqueducts. Our original plan was to rehabilitate the existing Sudbury Aqueduct and build a new connection between it and the transmission facilities from the Wachusett Reservoir. By letter dated December 15, 1989 (attached), we requested that staff to the Water Resources Commission concur in our determination that such project did not require review under the Interbasin Transfer Act, as a project whose sole purpose is to provide redundancy under 313 CMR 4.02(j). By letter dated February 16, 1990 (attached), Elizabeth Kline replied that the Sudbury Aqueduct rehabilitation project was not subject to the Interbasin Transfer Act. Her letter expressly did not deal with the proposed new construction parallel to the Southborough Tunnel (between Shaft C and Shaft 4).

Since these letters, the MWRA has changed the project configuration to minimize environmental impacts and to take advantage of recent technological developments in tunnelling construction. On January 15, 1990, we filed an ENF with MEPA and received a Certificate requiring an EIR on March 4, 1990. On June 15, 1990, we filed a Notice of Project Change with MEPA to reflect the reconfiguration of the project. We are currently preparing a DEIR and expect to file it within the next few weeks.

We believe the project should still qualify as a redundancy project under 313 CMR 4.02(j). However, in view of the changed configuration, we are providing in this letter additional information regarding the project. We request that staff confirm that no application under the Interbasin Transfer Act is necessary.

BASIS FOR EXEMPTION FROM INTERBASIN TRANSFER ACT

The Interbasin Transfer Act requires the Water Resources Commission to review and approve increases over the present rate of interbasin transfers. The Commission's regulations provide that the "present rate of interbasin transfer in a water supply system" means the hydraulic capacity of an interbasin transfer system, authorized, constructed and usable on the effective date of the Act, or, if less, the amount of such capacity usable under any existing withdrawal constraints contained in any general or special laws, judicial decree, regulatory agency rule or operating rule of the water supplier. 313 CMR 4.02.

"Actions to increase over the present rate of interbasin transfer" are reviewable, but the regulations at 313 CMR 4.02 exempt from Water Resources Commission review certain actions, including:

> (j) constructing conveyance facilities in the donor basin if the sole purpose is to provide redundancy, provided that any increase in capacity cannot be used to increase the ability to transfer water, on an annualized basis, out of the donor basin and providing further that instantaneous streamflow is not directly affected

In her February 16, 1990 letter, Ms. Kline concluded that the Sudbury Aqueduct rehabilitation project did not require approval from the Commission "provided that the combined transfer through the Hultman and Sudbury Aqueducts does not exceed the current hydraulic capacity of the Hultman Aqueduct of 300 mgd on an annualized basis." Her letter required an annual report of the volume transferred through the system to be submitted to the Commission. Further, the letter indicated that If the project resulted in the future in an increase in capacity, a special act of the legislature or an additional community joining the MWRA system, it would be subject to Commission approval retroactively.

We construe this guidance to mean that a project which is used solely for the purpose of redundancy does not require WRC approval,

provided that the system is not used to supply more water on an annualized basis than could have been provided using the hydraulic capacity of the current system within existing legal and regulatory constraints. Any expansion of existing withdrawal constraints (such as those expressed in legislation or regulation) which limit the use of hydraulic capacity requires Commission review. Moreover, since the date of Ms. Kline's letter, the Commission has determined that the addition of a new community to the MWRA system requires Commission approval. Since these changes require Commission review in the first instance, no use of any increased capacity resulting from this project could be made without Commission review and approval. We believe the present project satisfies the conditions in Ms. Kline's letter and should be considered a project solely for the purpose of redundancy.

PROJECT DESCRIPTION

The MWRA water supply transmission system is designed to carry drinking water from the Quabbin Reservoir in the Chicopee River Basin and the Wachusett Reservoir in the Nashua River Basin to some 40 communities in the eastern portion of the MWRA waterworks service area. This project proposes no change in the major transmission facilities carrying water out of each of the above donor basins.

Currently, water from the Quabbin/Wachusett Reservoirs is transmitted through the Cosgrove Aqueduct and the Southborough Tunnel to Shaft 4 in Southborough where 85% of daily water demand is delivered through the Hultman Aqueduct to the High Service Area and 15% of the daily demand is delivered through the Weston Aqueduct to the Low Service Area. A second aqueduct, the Wachusett Aqueduct, delivers water from the Wachusett Reservoir to certain towns served by the MWRA and provides redundancy to the Cosgrove Aqueduct. The Sudbury Aqueduct was designed to deliver water from the Framingham Reservoirs to the Chestnut Hill Reservoir and is currently linked through the Sudbury Reservoir and Framingham Reservoir No. 3 to the transmission facilities from Quabbin/Wachusett. It is currently on emergency reserve status due to the water quality in the Sudbury and Framingham Reservoirs.

The original project involved construction of a tunnel to connect the Sudbury Aqueduct to the Cosgrove Aqueduct at Shaft C and the rehabilitation of the Sudbury Aqueduct to conduct water to the High Service Area. By pressurizing the Sudbury Aqueduct a hydraulic

capacity of 200 mgd would be achieved. To gain full redundancy for the Hultman Aqueduct, the Weston Aqueduct would also have to be pressurized. The Sudbury and Weston Aqueducts together would be required to provide full redundancy for the Hultman's hydraulic capacity of 300 mgd.

The current project is also limited to the part of the transmission system which is downstream of the two main aqueducts carrying water out of the donor basins. It consists of the construction of a 14-foot diameter deep rock tunnel from Shaft C in Marlborough to Shaft N at Norumbega Reservoir in Weston plus a 12-foot diameter tunnel connection from Shaft N to the Weston Aqueduct and to Shaft 5 in Weston. Figure 1 (attached) shows the previous alignment consisting of the reconstruction of the existing Sudbury Aqueduct and the current alignment for the new all-tunnel project. When the new tunnel is operational, the Weston Aqueduct will be placed on emergency standby status. The new tunnel will provide replacement capacity for the Weston Aqueduct, as well as full redundancy for the Hultman Aqueduct's 300 mgd capacity. The Sudbury Aqueduct would remain on emergency standby status.

HYDRAULIC CAPACITY

As indicated, the purpose of the project is to provide redundant hydraulic capacity for the Hultman Aqueduct, as well as to replace the Weston Aqueduct. The design capacity of the Hultman Aqueduct is 300 mgd. The Weston Aqueduct, with a design capacity of 300 mgd, currently delivers about 40 mgd on an annualized basis, or 15 percent of flow to the metropolitan area. It would be removed from service upon completion of the project. The new tunnel would be designed to carry 500 mgd. Under average annual operating conditions, the Hultman and the new tunnel would carry 100 and 165 mgd, respectively. When the Hultman is shut down for repairs, maintenance or emergency conditions, the new tunnel would be able to provide capacity for the entire flow to the metropolitan area, even during peak days in the summer when maximum daily flow is 475 mgd. The new project will not be used to increase the volume of water supplied by the existing system on an annualized basis.

LEGISLATIVE AND REGULATORY CONSTRAINTS

No change is proposed in any existing constraint on the use of the current hydraulic capacity of the MWRA waterworks system. Apart from any withdrawal constraints, our withdrawals must remain

within the safe yield of these sources of 300 mgd. Withdrawals are also subject to legislative and regulatory constraints. Primarily, they must remain within the withdrawal amounts registered under the Water Management Act. We note that due to the success of our aggressive demand management and water conservation programs, the current demand on the MWRA/MDC water supply system is 285 mgd, well below these constraints. The MWRA remains committed to these programs on an ongoing basis.

The addition of new communities to the MWRA waterworks service area requires legislative approval under the MWRA enabling act, Chapter 372 of the Acts of 1984. Under the vote taken by the Water Resources Commission on October 9, 1990, the addition of a new community to the MWRA waterworks service area is an action that requires Water Resources Commission approval under the Interbasin Transfer Act. Thus, no new community could be served by the new tunnel (or the existing system) without WRC review and approval.

CONCLUSION

The proposed project to build redundant transmission facilities for the Southborough Tunnel/Hultman Aqueduct and to replace the Weston Aqueduct will not result in an increase over the present rate of the MWRA's interbasin transfer within the meaning of the Interbasin Transfer Act and regulations. No change is proposed in the hydraulic capacity of the transmission facilities carrying water out of the donor basins. Since no change is proposed in the legal and regulatory withdrawal constraints which limit actual use of the existing hydraulic capacity of the MWRA transmission facilities, there will be in effect no increase over the present rate of interbasin transfer.

Even if considered an increase over the present rate, the proposed project falls squarely within the regulatory exemption from Interbasin Transfer Act review for redundancy projects. The sole purpose of the project is to provide redundancy for the Southborough Tunnel/Hultman Aqueduct and to replace the Weston Aqueduct. The lack of redundant transmission facilities for the Hultman Aqueduct has been identified as a serious deficiency in the MWRA transmission system, the remediation of which is a high priority. As stated above, no increase in hydraulic capacity that may result from the project is intended to be used to increase transfers of water from the donor basins on an annualized basis, nor in fact can any such increased capacity above existing withdrawal constraints be used without further review

by the Water Resources Commission. There will be no impact on instantaneous streamflow in the donor basins.

Consequently, we believe the conditions set forth in Ms. Kline's February 16, 1990 letter continue to be satisfied.

We appreciate your review of this issue. I will call you in a few weeks to see whether you concur with our opinion. If you need any additional information on the project, please call me at 242-7110, ext. 4313 or James Powers at 242-7110, ext. 4302.

Very truly yours,

John F. Shawcross, Director
Capital Engineering and Development Department
Waterworks Division

cc: Alexandra Dawson, WSCAC
William Brutsch
James Powers
Joseph Araujo
Nancy Kurtz

THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

9 July 1991

Mr. John Shawcross, Director
Capital Engineering and Development Dept.
Waterworks Division
Massachusetts Water Resources Authority
100 First Street
Boston, MA 02129

Dear Mr. Shawcross:

On July 8, 1991, the Water Resources Commission voted that the Sudbury Tunnel project was exempt from Commission review under the Interbasin Transfer Act (MGL, C.4, ss 8B) pursuant to 313 CMR 4.02(j) of the Interbasin Transfer regulations, which exempts projects whose "sole purpose is to provide redundancy, provided that any increase in capacity cannot be used to increase the ability to transfer water, on an annualized basis...". This decision was based on the following facts:

The MWRA is proposing to construct a tunnel connecting the Authority's Cosgrove Tunnel and City Tunnel transmission facilities (See Figure 1). This project will provide redundancy for the Hultman Aqueduct and Southborough Tunnel, and will replace the Weston Aqueduct, which currently serves the low pressure areas of the system.

Background

In December 1989, we received correspondence from the MWRA describing a proposed project to rehabilitate the Sudbury Aqueduct as a key link in MWRA's metropolitan transmission system. The Authority contended that because the project was solely to provide redundancy to the Hultman Aqueduct and to serve as a backup when the Hultman Aqueduct was out of service, it was exempt from Commission review under the Interbasin Transfer Act.

The affected portions of the MWRA's transmission service would have the following design capacities at the completion of the proposed project:

- Sudbury Aqueduct 200 mgd
- Hultman Aqueduct 300 mgd
- Weston Aqueduct 300 mgd

The total design capacity of this portion of the system would be 800 mgd.

After reviewing the proposed project and analyzing the physical and legal constraints that would prevent the project from causing an increase in the rate of interbasin transfer, the Commission agreed that the project was exempt from review under the ITA.

Current Project

Since the 1990 decision, the MWRA has been exploring different options to the Sudbury Aqueduct project in order to minimize environmental impacts and to take advantage of recent developments in tunneling technology. The Authority is now proposing to construct a 14 foot diameter tunnel from Shaft C, at the Cosgrove Tunnel in Marlborough to Shaft N at the Norumbega Reservoir in Weston. The project would also include a 12 foot diameter tunnel from Shaft N to Shaft 5, at the City Tunnel in Weston (Figure 1).

When the new tunnel is operational, the Weston Aqueduct will be taken out of service and placed on emergency standby status. There will be some minor rehabilitation of the Sudbury Aqueduct in order to make it operational, however this structure will also remain on emergency standby status. Neither the Weston Aqueduct nor the Sudbury Aqueduct will be used unless the Sudbury Tunnel is out of service and a combination of demand management and use of the Hultman Aqueduct prove inadequate to meet peak demands.

The Authority is asserting that the purpose of the Sudbury Tunnel project is solely to provide redundancy to the Hultman Aqueduct and Southborough Tunnel.

Hydraulic Capacity

Currently, the Hultman Aqueduct and the Weston Aqueduct each have a design capacity of 300 mgd. The Southborough Tunnel has a design capacity of 600 mgd. The new tunnel would be designed to carry 500 mgd. With use of the Weston Aqueduct being discontinued, total design capacity of this portion of the transmission system would be 1400 mgd.

Under normal operating conditions, the Hultman Aqueduct would carry 100 mgd and the new tunnel would carry 165 mgd. Both the Sudbury Tunnel and the Southborough Tunnel will feed these conveyance structures. When the Hultman is shut down for repairs, maintenance or emergency conditions, the new tunnel would be able to provide capacity for the entire flow to the metropolitan area.

The MWRA has stated that the new project is **not** intended to increase the volume supplied by the existing system on an annualized basis.

Physical Constraints on Increasing the Current Rate of Interbasin Transfer

Although the combined maximum capacity of the Hultman Aqueduct, Sudbury Tunnel, and Southborough Tunnel would be 1400 mgd, in practice this capacity could not be reached without emptying the distribution reservoir. At the present time, the Norumbega Reservoir acts as the pressure control for the Hultman Aqueduct, thus regulating the flow. It is normally kept at an elevation of 272 feet. Once the Sudbury Tunnel is operational, Norumbega's elevation will be raised to approximately 280 feet to provide the extra pressure differential. A set operating range for the Wachusett Reservoir and its associated stilling pool and Norumbega Reservoir will be established to keep the normal flows through the Hultman Aqueduct at 100 mgd and through the Sudbury Tunnel at 165 mgd.

Legislative and Regulatory Constraints

The safe yield of the MWRA system is 300 mgd. Withdrawals must remain within this limit. Withdrawals are also subject to the conditions of the Water Management Act. At the present time, the MWRA is well below its registered withdrawal, due to its aggressive demand management program. The MWRA is committed to continuing this program on an ongoing basis.

The addition of new communities to the MWRA waterworks service area requires legislative approval under the MWRA enabling legislation, Chapter 372 of the Acts of 1984, as well as Water Resources Commission approval under the Interbasin Transfer Act. Thus, no new community could be served by the new tunnel without WRC review and approval.

Conclusion

It is the express intention of the Interbasin Transfer Act that any increase over the present rate of interbasin transfer be subject to Water Resources Commission approval. However, section 4.02(j) of the Interbasin Transfer Act regulations (313 CMR 4.00) exempts projects whose "sole purpose is to provide redundancy, provided that any increase in capacity cannot be used to increase the ability to transfer water, on an annualized basis...".

Based on the information provided by the MWRA, the Sudbury Tunnel project is not subject to the Interbasin Transfer Act and will not require approval from the Water Resources Commission provided that the combined transfer through the Southborough Tunnel, the Hultman Aqueduct and Sudbury Tunnel does not exceed the current hydraulic capacity of the Hultman Aqueduct of 300 mgd on an annualized basis. To assure that this condition is met, an annual report of the volume transferred through this system will be submitted to the WRC. If in the future, this project does result in an increase in capacity, a Special Act of the Legislature, or an additional community joining the MWRA system, it will be subject to Commission approval retroactively.

It should be noted that this decision, like the February 16, 1990 decision, deals solely with the Sudbury Tunnel project and not with construction or rehabilitation of any other portion of the MWRA's transmission and distribution system. Any new construction, such as that to parallel the Cosgrove Tunnel or the construction of a northern tunnel loop system to connect Spot Pond with the City Tunnel, will be considered as a separate issue.

If you have any questions about this decision, please call Michele Drury of DEM Office of Water Resources at 617-727-3267 ext. 527.

Sincerely,

Peter C. Webber
Commissioner, DEM
Chairman, Water Resources Commission